

Status Quo, Potential and Perspective for Soy Cultivation in Europe

**Susanne Fromwald,
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ENGA (www.enga.org)

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(www.thecollaborativesoyinitiative.org)

Donau Soja is...

 Austrian
Development
Agency

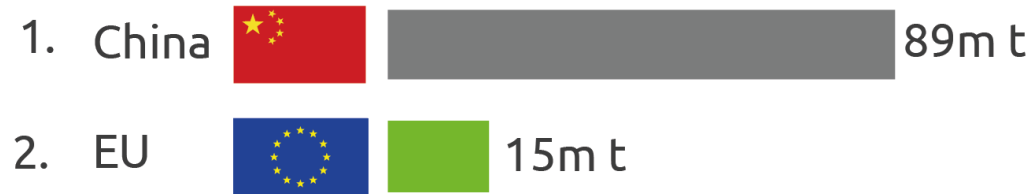


- an independent, not-for-profit and member-based organisation with more than **280 Members** in **25 countries**;
- supported by **24 European governments** (Donau Soja and Europe Soya declaration);
- a European organisation with **HQ in Vienna** and **regional offices** in soybean producing countries
- **interprofessional**: plant breeding, farming, processing, food and feed production, distribution, retail and civil society.
- Active on three levels: **political lobbying** (Protein Strategy, Europe Soya Declaration), **market development** (providing a certification scheme and consumer product label) and **R&I** projects



EU is one of the major importers

Leading importers of soyBEAN in the global market (2019):



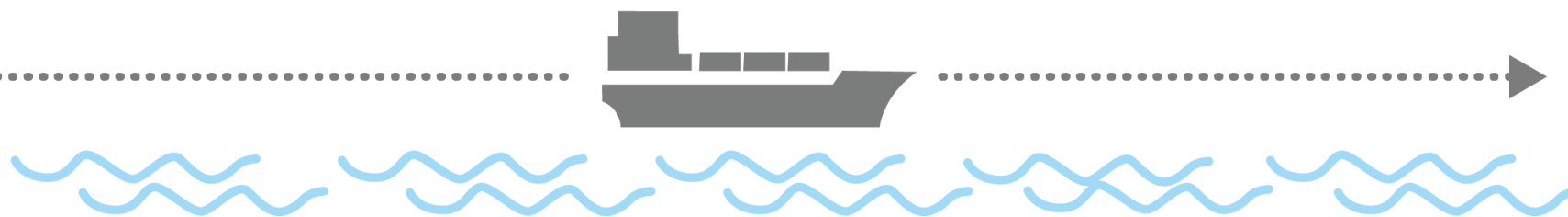
Leading importers of soyMEAL in the global market (2019):



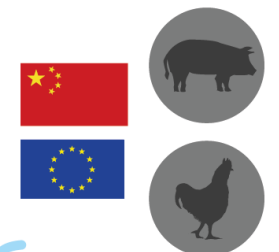
Exporters:



5,000 - 20,000 km



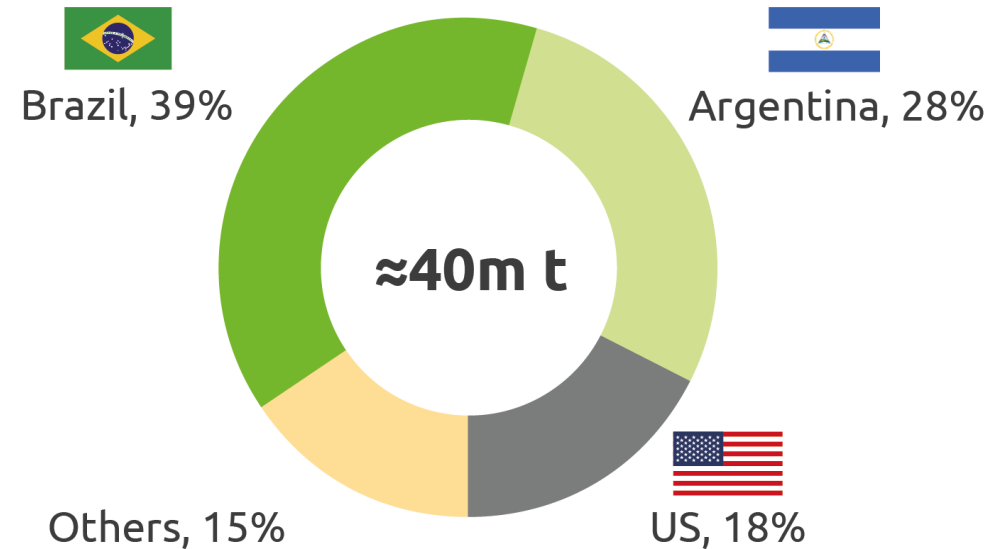
Importers:



Soy imports to the EU: 2/3 from Overseas



The EU's soya imports* by exporting country (avg 2015–2019):



* Soybean + soymeal imports converted into "soybean equivalents"
Source: Donau Soja calculation based on COMTRADE data

² Trase. Yearbook Soya 2018. Available at: <http://yearbook2018.trase.earth/>

EU: Soya imports and deforestation



According to European Soy Monitor (2019):

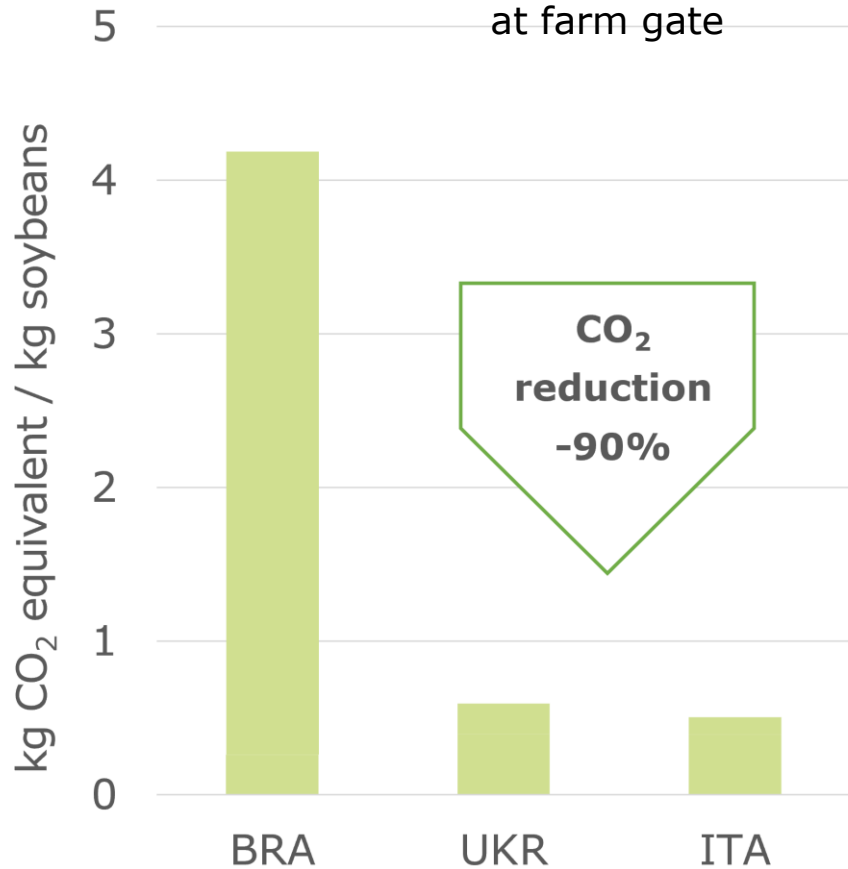
About **25 %** of imports are **certified deforestation free** (including credits)

Soya is accountable for 31 % of the **deforestation imported into the EU** (WWF Report, 2021)

Deforestation as main driver of CO₂ emissions

Carbon footprint of 1 kg of soya beans

at farm gate



Source: Agri-footprint 5.0

Carbon benefit of certified sustainable conversion free soy on the example of Donau Soja:

Donau Soja:

Product calculations* show:

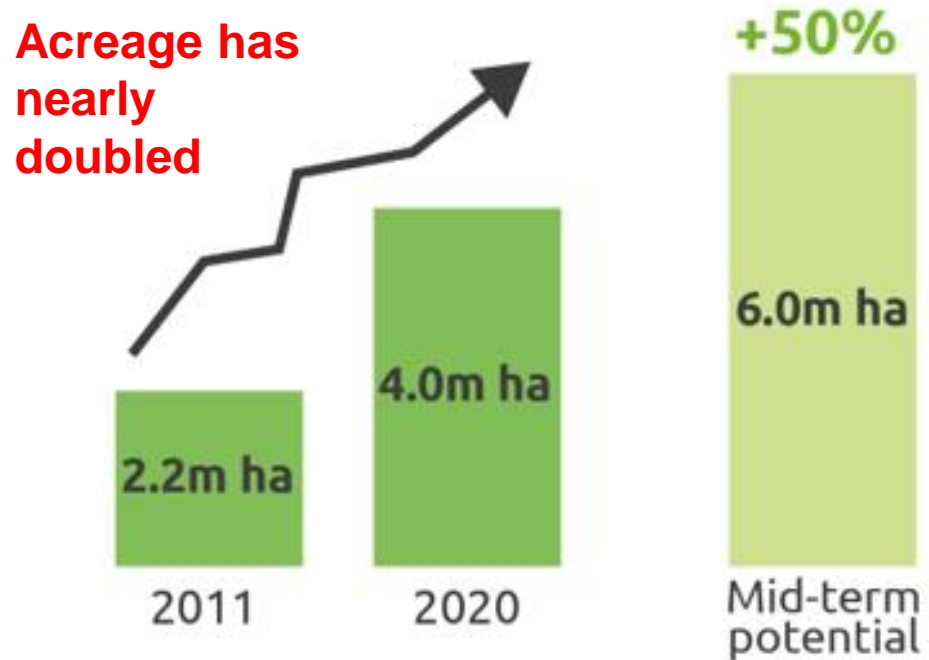
Minus 40 % CO₂-emissions per kg egg or pork with Donau Soya feed



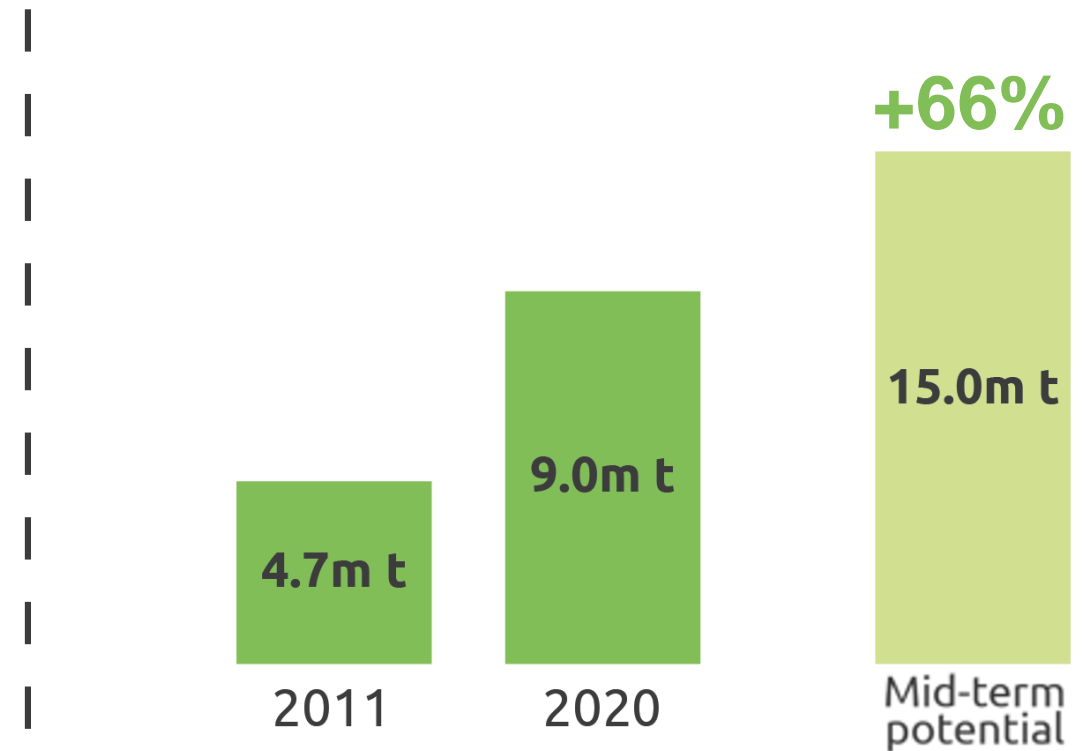
*FIBL studies see www.donausoja.eu

Soybean area and output in Europe

Development of soya area in Europe:

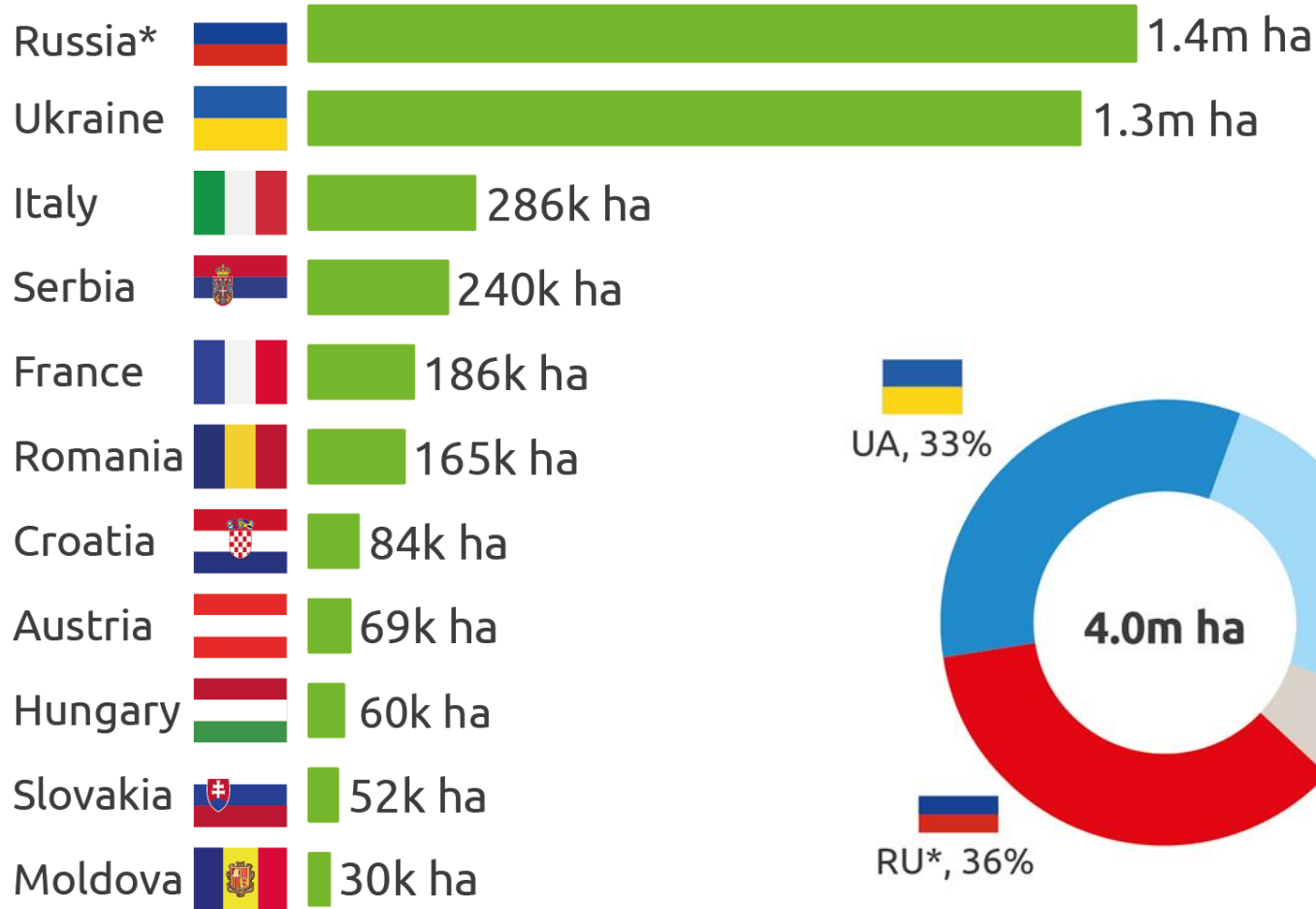


Mid-term potential for soya output

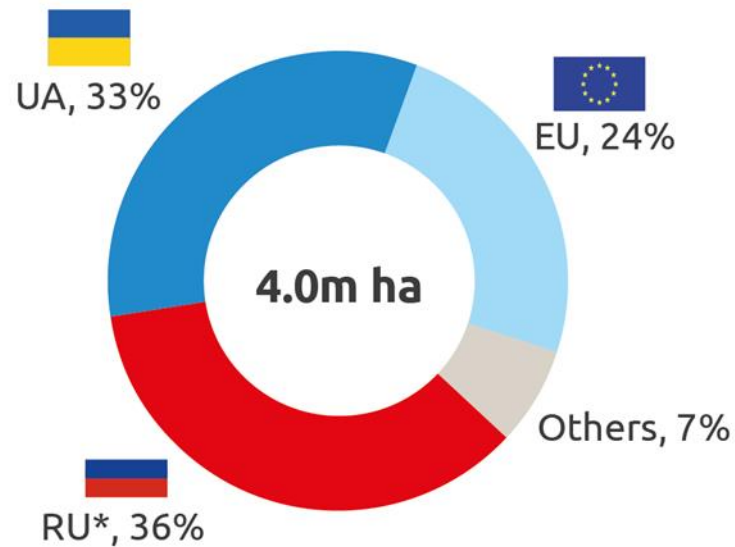


* only European Russia
Sources: Donau Soja

Major soy producing countries in Europe

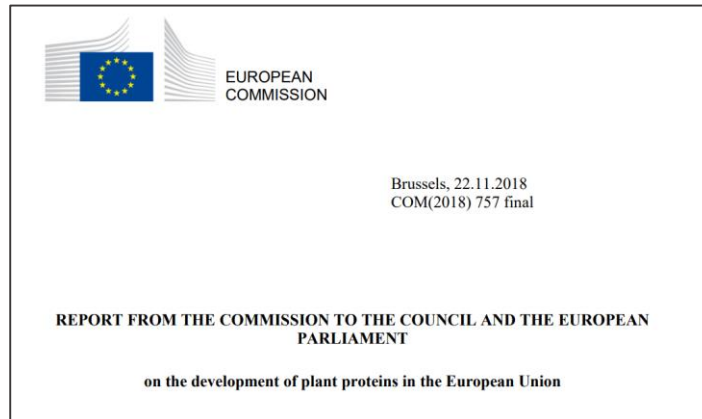


>2/3 of European soy is grown outside the EU



Political support to increase European plant protein production

European Commission: Protein Strategy for Europe



[Link](#)

Europe Soya Declaration (Signed by 19 countries)



[link](#)

National protein strategies



Eiweißpflanzenstrategie



[link](#)

Strong breeding and seed sector in Europe

Austrian
Development
Agency



Yield progress

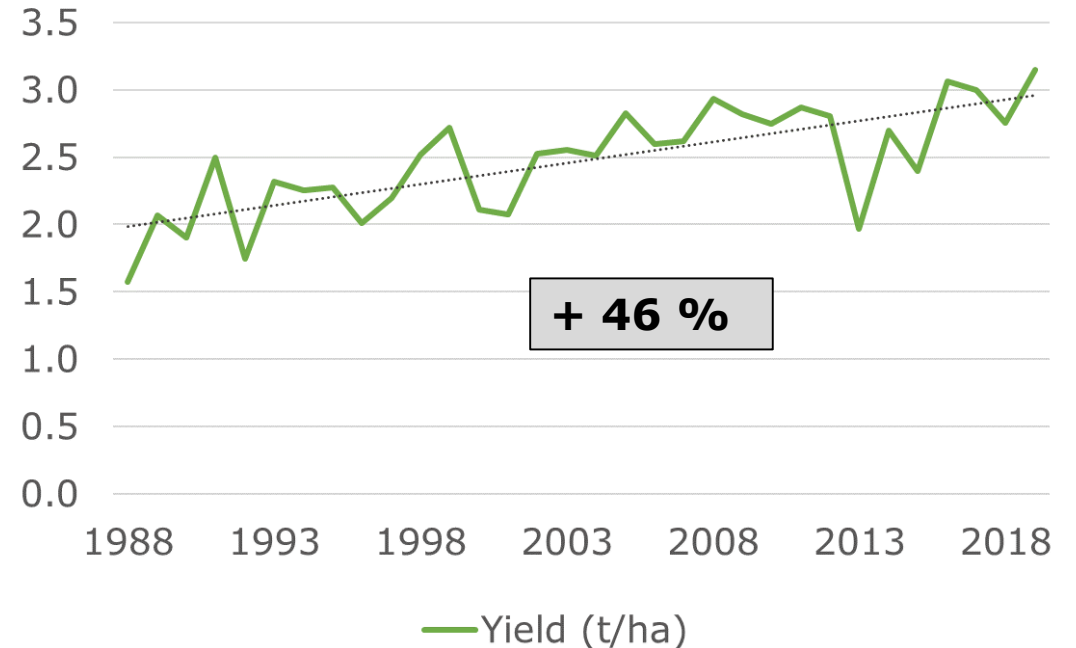
Example of the breeding progress in Europe: In Austria, the number of registered varieties increased:

43 varieties in 2010 up to
67 varieties in 2019
(increase in early-maturing varieties)

Mean yield

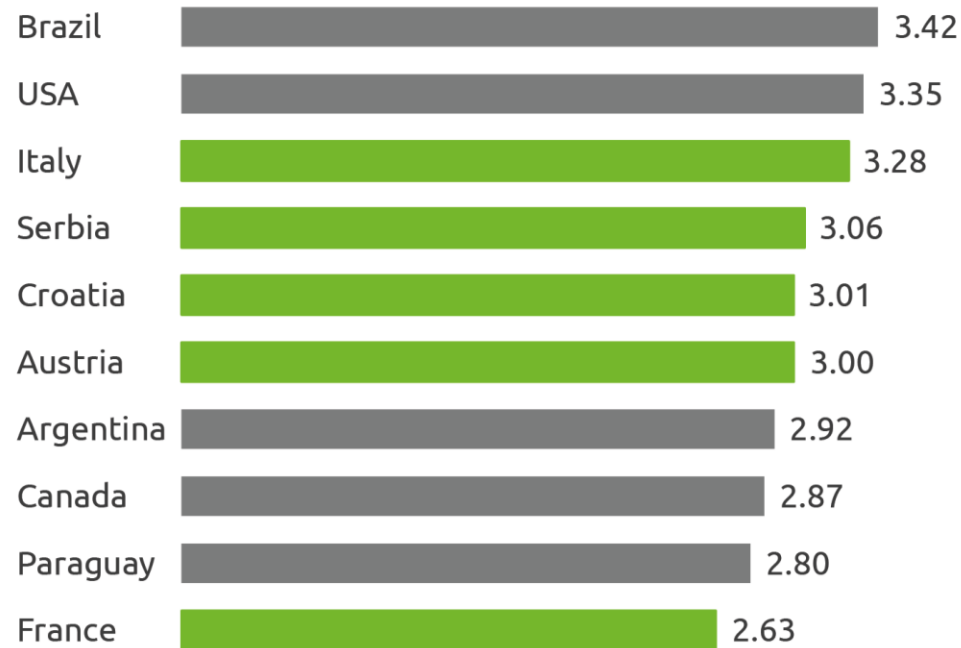
1. 1988-1992: 1.96 t/ha
2. 2015-2019: 2.89 t/ha, **+46%**

Yield progress in Austria
1988-2018



High soybean yields in Europe

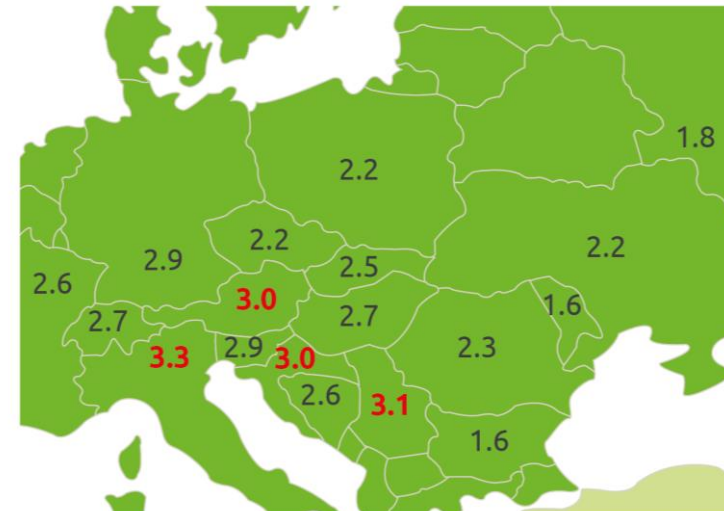
Soya yields - global top 10 list* (t/ha, 2016-2020 avg.) :



* the list includes countries with min. 50,000 ha soya area in 2020.
Sources: USDA + Donau Soja

**Yields in Europe
are high**

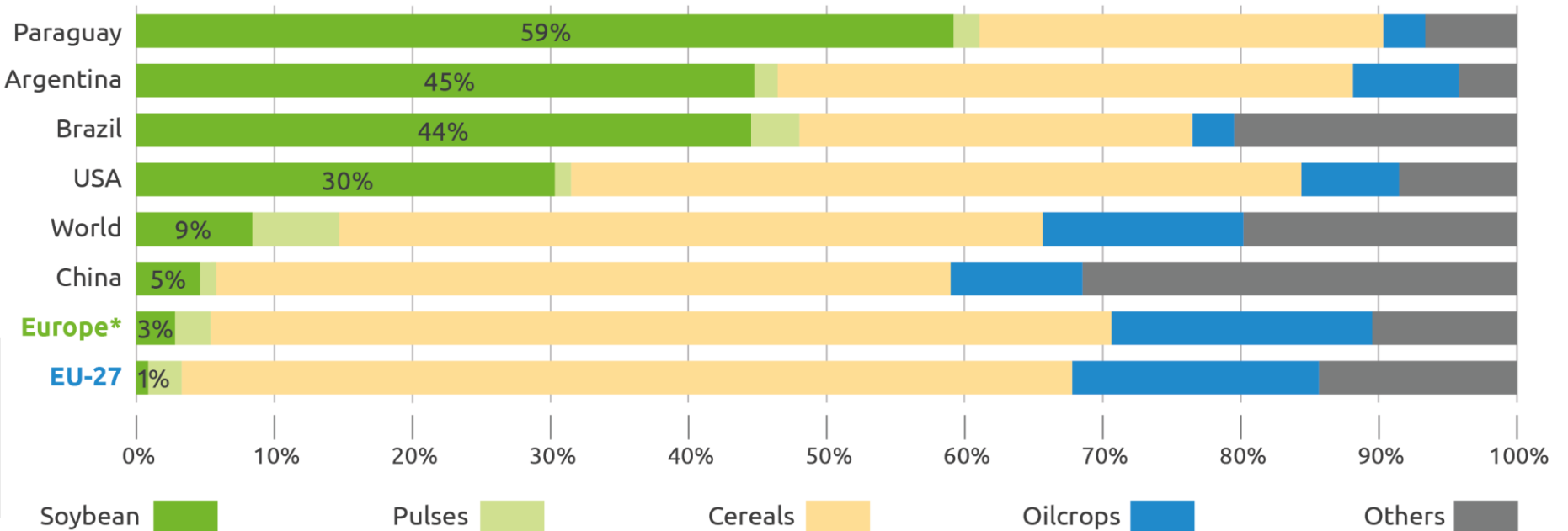
Soya yields in Europe (t/ha, avg. 2016-2020):



source: Donau Soja

Soya share in crop rotations

Harvested area of annual crops in 2019



Legumes in
crop rotation
are low

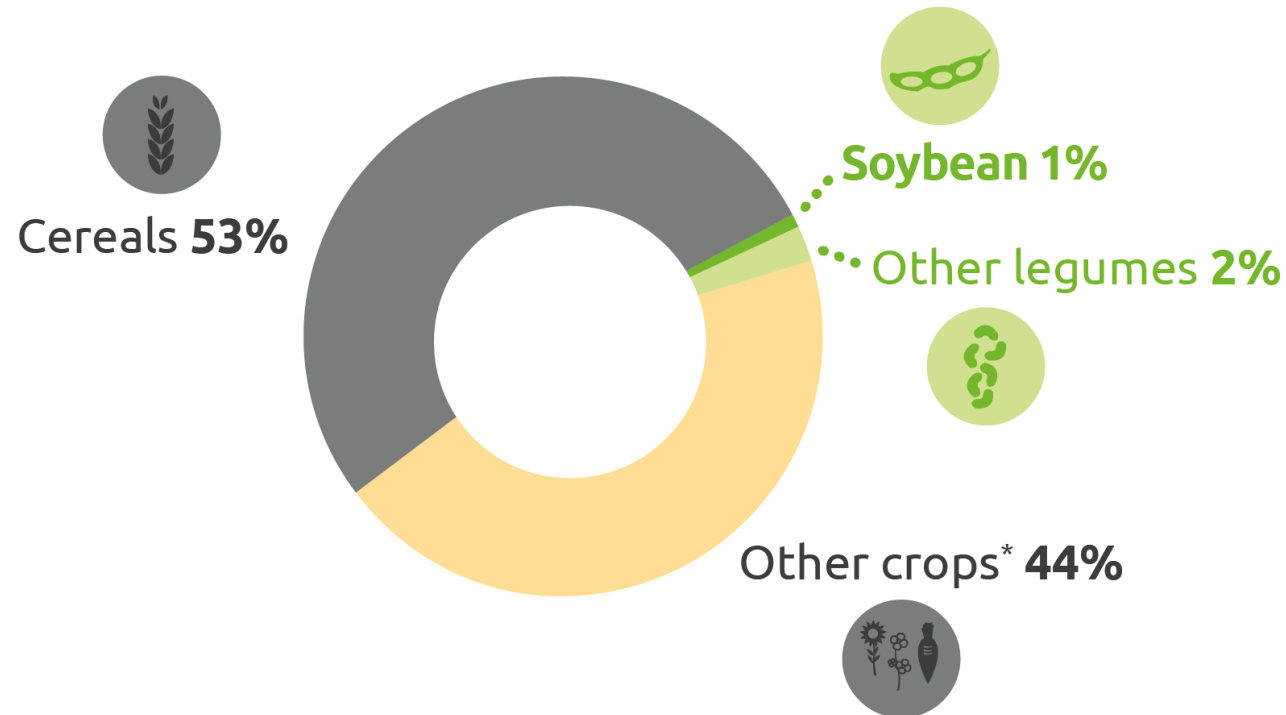
Pulses: bambara beans, beans dry, broad beans, horse beans dry, chick peas, cow peas dry, pigeons peas, vetches; **Cereals:** barley, buckwheat, canary seed, fonio, maize, millet, oats, quinoa, rice, rye, sorghum, triticale, wheat; **Oilcrops:** castor oil seed, coconuts, groundnuts with shell, hempseed, jojoba seed, kapok fruit, karite nuts (sheanuts), linseed, melonseed, mustard seed, oil palm fruit, olives, poppy seed, rapeseed, safflower seed, seed cotton, sesame seed, sunflowers seed, tung nuts

* Europe includes the total part of Russia.

Source: FAOSTAT

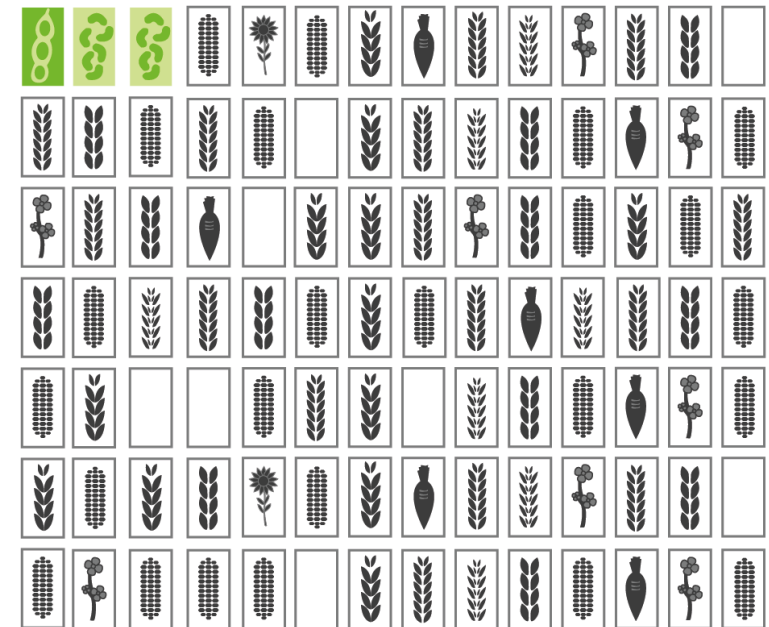
Limited diversity in cropping systems

Cropping of arable land in the EU (2018):



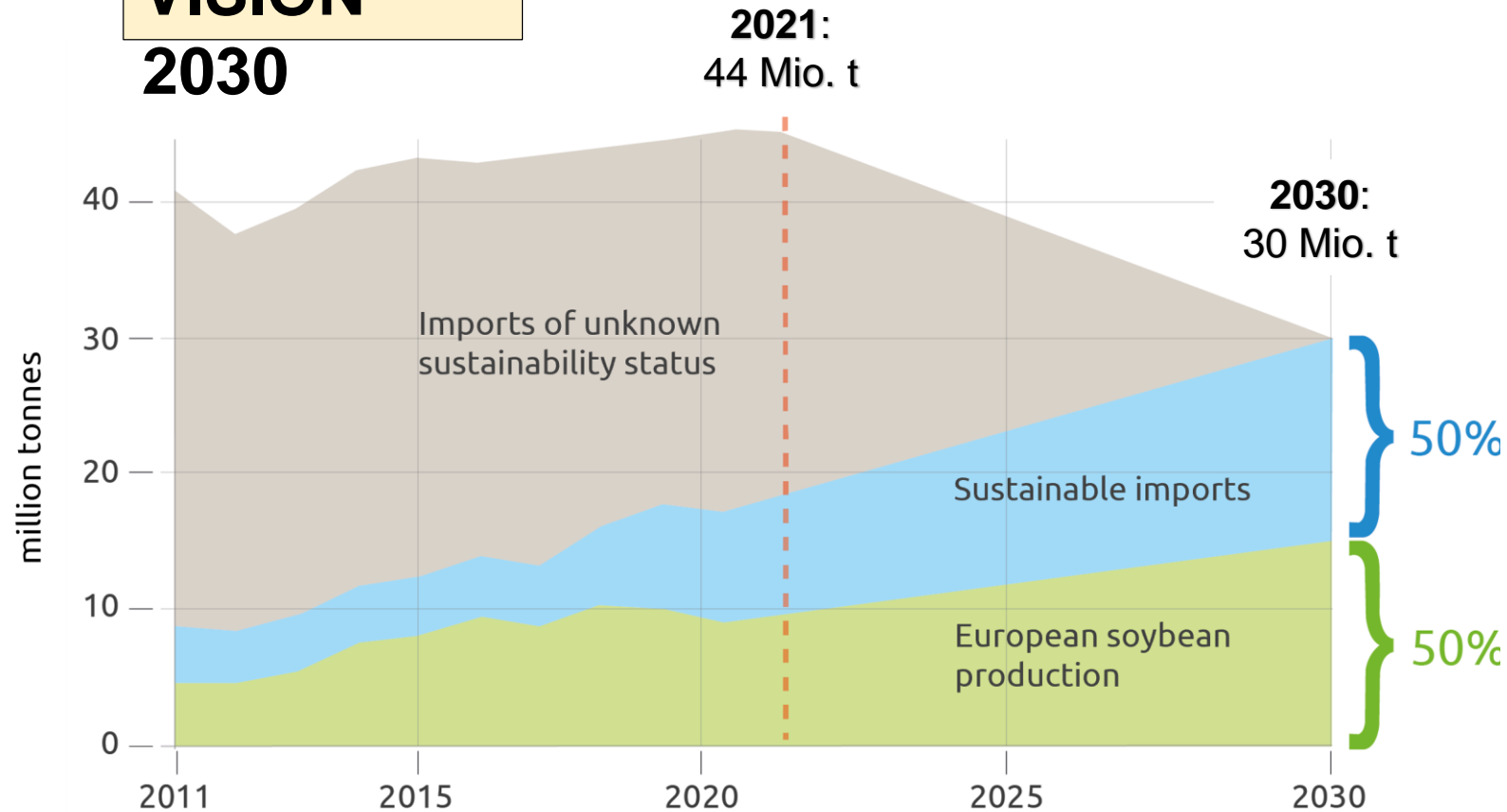
* including fallow land
Sources: Donau Soja + FAO

Only 1%
of arable land is planted by
soybean



European soy production & consumption

VISION 2030



Main results by 2030:

Shifting towards
**100% sustainable
imports**



Raising soya
**self-sufficiency
rate to 50%**



Benefits of increased soy production in Europe and for Europe

More soy cultivation and (local) processing

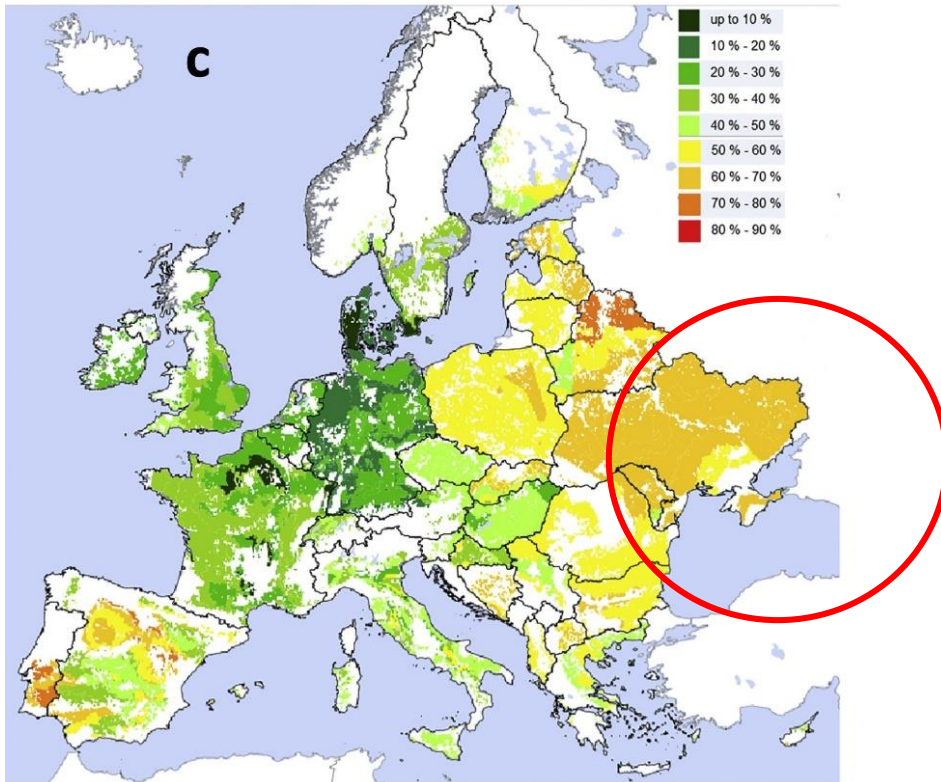
- brings **added value to local value chains** in Europe,
- **increases** self sufficiency in **plant proteins** and
- helps building **deforestation free value chains** in Europe.

→ by closing the yield gap, mostly in Eastern Europe

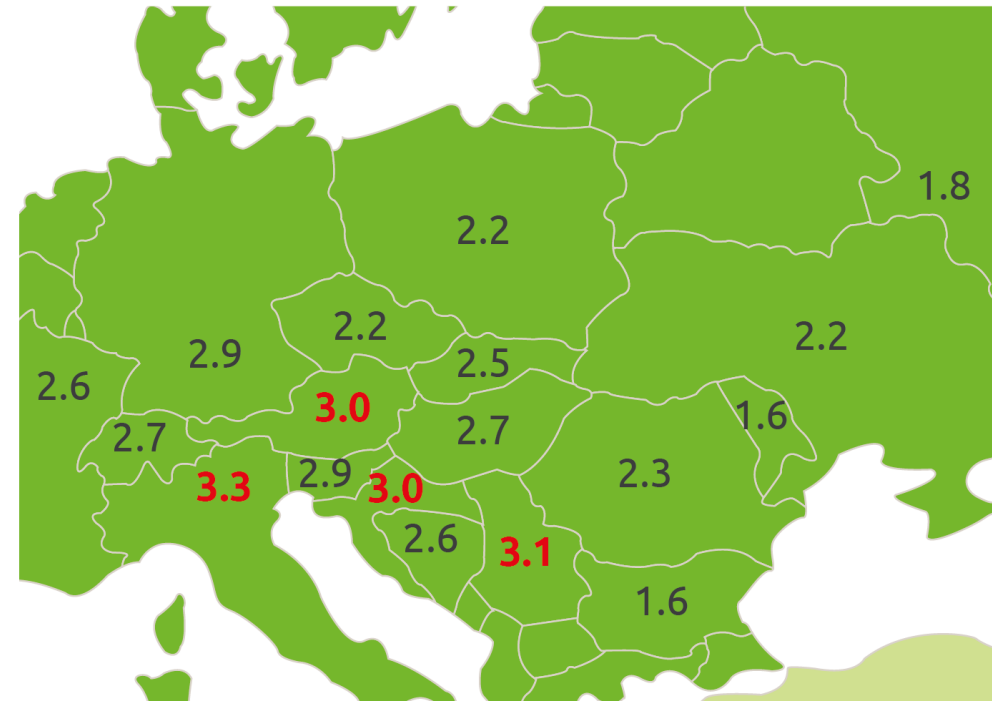
→ by better crop rotation, using soy as a break crop to keep high productivity, mostly in Western Europe

Yield gaps in Europe for wheat and soya

Wheat yield gaps in Europe



Soya yields in Europe (t/ha, avg. 2016-2020):



source: Donau Soja

Yield gaps (% of yield potential) of rainfed wheat (left). Yield data were collected for a recent period of 10 years; Schils, R. et al. 2018 in European Journal of Agronomy. Plant Production Systems Group, Wageningen University
<https://doi.org/10.1016/j.eja.2018.09.003>

Soya as a „break-crop“

Inserting soybean into a cereal-dominated system, is a contribution for more diversity. Benefits arise from 'breaking' locked systems (=break-crop effect):

1. Less problems with **weeds, pests and diseases** in other crops
2. Less **pesticides** needed
3. Avoiding **crop failures**

Eyespot **disease** in wheat



Herbicide resistant black-weed



Corn rootworm



Photo by landpixel

Photo by Klaus Strotmann

Photo by Landwirtschaftskammer NRW

Increased soy production in Europe is very possible and has both ecological and economic benefits

- More legumes in European **crop rotation** have relevance as break crops and for Nitrogen-cycle.
- Increased European cultivation & processing brings **added value** in rural areas through regional value chain development & regional climate partnerships,
- reduces **CO₂ emissions** and
- relieves pressure from **valuable ecosystems** in Overseas.

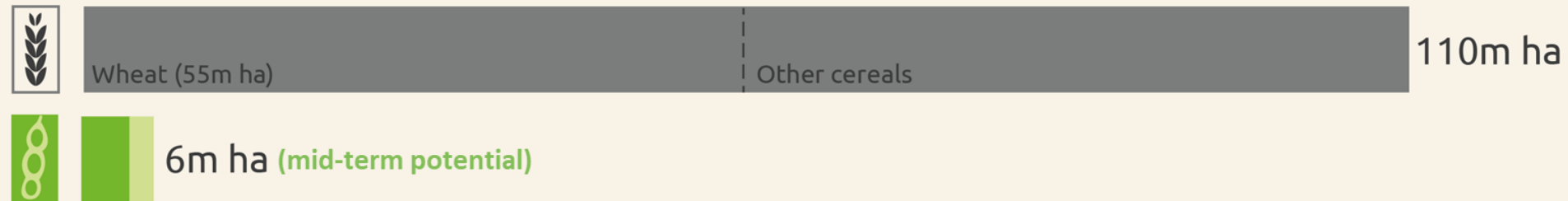


Is there a replacement problem?

By expanding soya area, no negative replacement effects occur:

By closing yield gaps in Eastern Europe, the output level can easily remain on same level.

Soya (mid-term potential) vs cereal area in Europe (2019):



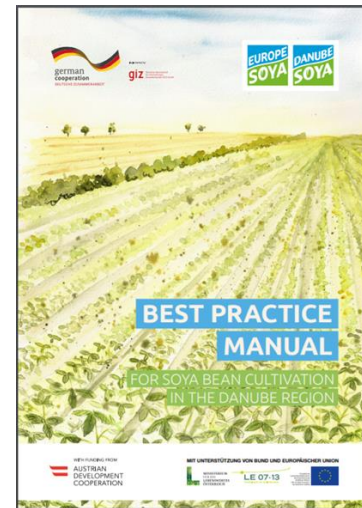
Source: FAOSTAT

For more detailed questions regarding agriculture and statistics

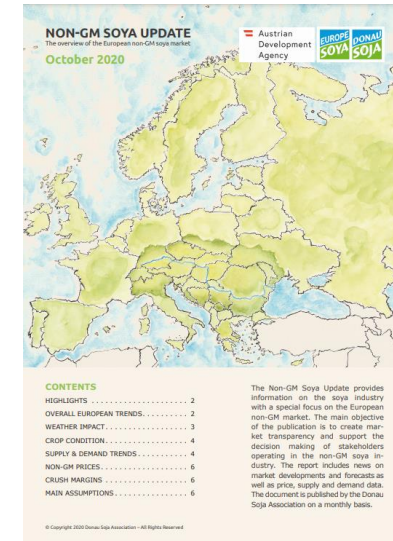
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Many thanks for your attention!

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